

A high-level monthly briefing on operations and activities at the Department of Energy's Idaho National Engineering and Environmental Laboratory – Home of Science and Engineering Solutions. Work at the lab supports the Department's business lines of environmental quality, energy resources, national security and science.

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## ■ ENERGY RESOURCES – New Passenger Vehicle Planned

The U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory is working with automotive industry leaders and private industry to develop a low-floor, 18-32 passenger vehicle that uses alternative fuel and complies with the Americans with Disabilities Act. During the first phase of the project, scheduled to be completed December 2002, program partners will develop a prototype with a natural gas powertrain. This vehicle will have added amenities to support tourism in the national parks. In the second phase of the project, scheduled to be complete in 2003, a demonstration prototype will be developed using a liquid natural gas powertrain that could be integrated with hydraulic launch assist.

## ■ ENVIRONMENTAL QUALITY – INEEL Focuses on North Idaho Challenge

One of the most challenging environmental problems in the Northwest will be the focus of a four-day zinc/cadmium symposium Sept. 9-12 at the Coeur d'Alene Resort in Coeur d'Alene. The symposium will address the science and research needed to develop cost-effective technologies for remediation of zinc and cadmium found in the waters of the Coeur d'Alene basin and other areas facing similar mine waste contamination issues. Organizers include the Coeur d'Alene Tribe, Idaho Department of Environmental Quality, U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory, Idaho Water Resources Research Institute, Inland Northwest Research Alliance, the Office of Idaho Sen. Michael Crapo and the U.S. Environmental Protection Agency. The symposium is being held under the auspices of Western Connections, a new program created to assist Idaho and other western states in resolving their most complex energy and environmental problems.

## ■ NATIONAL SECURITY – Improved Drug Test Developed

A new drug test developed by scientists at the Idaho National Engineering and Environmental Laboratory, in collaboration with Miragen, Inc., promises to crack down on drug-test cheaters. Unlike more commonly used tests, the new method relies on a few drops of saliva, making it possible to get samples without the requirement of a nearby restroom. What's more, the drug-testing strips uncover illegal drugs while decoding an individual's unique auto-antibody signature – a barcode-like pattern of proteins that links a test's results to its taker to further prevent sample-swapping.

## ■ SCIENCE – Unique Research Facility Christened

The INEEL and Bechtel National this month introduced their new Geocentrifuge Research Laboratory to the scientific community. Acting like a "geologic time machine," the geocentrifuge subjects test specimens to a high-gravity field by spinning them rapidly around a central shaft. In this high-gravity field, processes such as fluid flow occur much more rapidly. Using this technique, researchers can study in a few days or weeks the effects of tens of years of gravity-induced fluid movement. INEEL staff plan to use the geocentrifuge to study engineered caps and barriers designed to keep contamination from spreading, to develop more effective landfill designs, to improve our ability to characterize contaminated sites, and to study basic magmatic and tectonic processes. The Geocentrifuge Research Laboratory will also serve as a user facility for outside scientists and researchers.

For more information, contact Ron King at 208-526-7300